92.8
C498c

The Citrus Industry

Representative of Every Interest
Representing No Special Interest

Subscription ... $1.00 Per Year
In Continental U. S.
$2.00 Else Where Outside

OCT 1 1951

Pictured Above
Typical Spraying Scene in Florida Citrus Grove

This Month

- Citrus Insect Control for October, 1951
- Storage of Oranges
- Present Status and Trends in Citrus Varieties
- Symposium on Certification of Disease-Free Nursery Stock
- Robinson Stresses Need for Greater Advertising
- Wind Machines Come To Florida
- Horticultural Society October 30th

Vol. 32, No. 10 Bartow, Florida October, 1951

Your Profit Combination for Crop Feeding and Protection!

Take it from any angle you want to—if it's profitable operation you want in these troubled days, you can't do better than to bank on the IDEAL Fertilizer – FASCO Pesticide combination.

These products are designed for YOUR soils and conditions. Applied according to plan, they will produce quality crops—and it is quality in fruit and vegetables that will continue to pay off best at the market.

The Wilson & Toomer and FASCO organizations are state-wide. Manufacturing, warehousing, research and service by trained men are teamed to just one end—profitable operation for you. Take advantage of this service yourself—today!

FASCOGRAM: Watch out for purple mites and rust mites. Too late to use oil sprays for scale — Parathion recommended for scale control now.

Your Profit Combination for Crop Feeding and Protection

IDEAL FASCO

WILSON & TOOMER
FERTILIZER COMPANY
and Divisions
FLORIDA AGRICULTURAL SUPPLY COMPANY
Peninsular Fertilizer Company - Tampa
GENERAL OFFICES • JACKSONVILLE, FLORIDA

Citrus Insect Control For October 1951

W. L. THOMPSON & R. M. PRATT*
CITRUS EXPERIMENT STATION,
LAKE ALFRED, FLORIDA

A new hatch of red scale occurred during August and September and many groves in which red scale was not a problem earlier in the season are now infested. The situation differs somewhat from that of last year in that the scale infestations occurring in October, 1950, were largely a carry-over from the extreme build up which occurred during the spring, while this year the spring infestations in most cases were less severe, and many groves infested now did not have heavy infestations earlier. The peak of the hatch was passed during the third week of September.

A hatch of purple scale also occurred during the same months, but has been more in the nature of a normal seasonal change. The average infestation has not increased, due to heavy mortality caused largely by entomogenous fungi. However, the hatch is continuing and purple scale may be expected to increase during October if the weather is dry.

The purple mite population has reached a very low level but is now increasing, although the rate of increase may be slowed by recent rains in most areas.

While the average rust mite infestation is decreasing at this time, the level of infestation on fruit is rather high, and infestations of this mite usually increase during October.

Spray Programs

Groves should not be allowed to go into the winter with heavy scale populations so where these are present in damaging numbers control measures should be taken as soon as possible even though the best time for control has passed. Under these conditions thorough spraying is particularly important. Red scales are often numerous in the tops of the trees because of lack of coverage.

Parathion should be used where scale control is required. Satisfactory control can be obtained with oil emulsion, but in addition to the reduction of maximum solids in the fruit, and the retarding of degreening of early varieties, there is increasing danger of reducing the next season's crop. Severe defoliation may follow late application of oil sprays if cold weather occurs, and even in the absence of cold, more dead wood can be expected following the use of oils than following parathion.

Groves must be checked closely for rust mite if rusty fruit is to be avoided. Either sulfur sprays or dusts may be used for control but application must be thorough. Lime-sulfur should not be used on tangerines or early oranges and in no case should it be used at a rate higher than one gallon to the hundred.

Where rust mite control is needed the grove should be inspected for purple mite, and a miticide should be included in the spray when necessary. DN 111 is the preferred material to use in early October. From late October on through the winter DN Dry Mix can be used. Purple mites should not be allowed to become abundant during the fall and winter months because of the severe defoliation which may result.

For more specific information consult the Florida Citrus Experiment Station at Lake Alfred or Fort Pierce.

* Written September 24, 1951. Reports of surveys by Harold Holtsberg, Cocoa; J. W. Davis, Tavares; K. G. Townsend, Tampa; J. B. Weeks, Avon Park; and E. D. Harris, Jr., Lake Alfred.

MOST FLORIDA CITRUS NOW GOES INTO CANS

The Florida Canners' Association's compiled figures for the Industry show that of last season's Citrus Crop 53% Grapefruit and 61% Oranges went into cans and the total canned pack of Florida citrus products was 48,242,407 cases fruit and Juices---30,757,656 Gallons Frozen Orange Concentrate, 2,529,671 galons of Processed Orange Concentrate, 581,776 gallons of other type of Frozen and Processed Citrus Products. The total number of boxes of citrus used by canners was 41,446,995 boxes of Oranges and 17,765,941 boxes of Grapefruit.

Florida is by far the nation's largest producer of canned citrus. Other producing areas are Texas, California, and Arizona.

The Association's report traced the number of boxes of Grapefruit used by Canners for the last ten years, revealing that over fifty percent of production had gone into cans. Also, during the last ten year period the use of oranges by Canners had increased from 15% to 61% of production. This amount represents more oranges than were produced in Florida prior to 1943-44 season.

Successful Growers Use
Stauffer
FICO BRAND INSECTICIDES
APOPKA • ORLANDO • WINTER HAVEN

Horticultural Society Meets At West Palm Beach, October 30th

Florida citrus growers are looking forward with interest and anticipation to the Sixty-Fourth annual meeting of the Florida State Horticultural Society which meets in West Palm Beach on October 30 for a five-day session.

While the official program has not as yet been made public, it is stated by the officials in charge of the meeting that the list of subjects to be covered and the list of speakers to appear on the program will be the equal of any ever presented at a meeting of the Society. That means that practically every subject now engrossing the attention of citrus growers will be covered in an interesting and able manner.

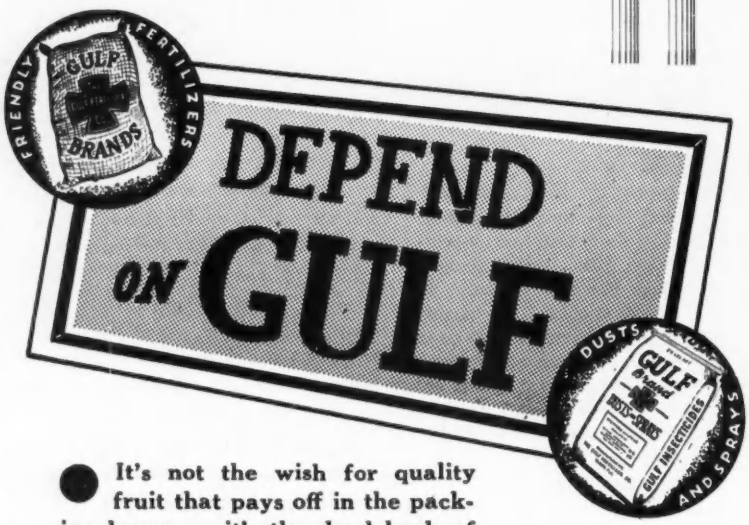
The history of the Florida State Horticultural Society during its two-thirds of a century of service to Florida horticultural interests, and particularly Florida citrus interests, has been one of efficiency and outstanding value. When any problem of paramount interest to citrus growers has arisen, the Society has been quick to recognize it and to render valuable aid. Whenever calamity of any sort has threatened, the Society has been on hand to combat it.

Older members of the Society remember the herculean efforts of the Society when the industry was threatened with extinction by the invasion of citrus canker many years ago, and the still later work of the Society when the state was invaded by the Mediterranean fruit fly, when millions of trees were destroyed and millions of dollars were lost by citrus growers in the work of eradication. They remember the herculean work performed by state and educational officials, led by the officers and committees of the Society.

No problem which has confronted the industry has failed of the energetic support of the Society in providing a solution. The Society today is just as active, just as efficient, just as much alive to the interests of the growers as it has ever been. It deserves the support of every grower, and all who can should attend the forthcoming meeting in West Palm Beach.

Freezing vegetables without preheating is not satisfactory.

Give the best CARE to get better Fruit !



It's not the wish for quality fruit that pays off in the packing house — it's the deed back of your efforts to produce it. Your all-year fertilization program, the methods and materials you use to keep fruit bright and trees healthy in the battle against insects and diseases — all these and more are vital in growing better fruit. DEPEND ON GULF—and the complete cooperation of your local Gulf Field Man—for your plan of grove care. You get results that can be measured at picking time.

GULF Friendly FERTILIZERS

ALSO USE GULF Brand DUSTS AND SPRAYS

THE GULF FERTILIZER COMPANY
Tampa and Port Everglades, Florida

The Citrus Industry
EXCLUSIVE SPECIALIZED CITRUS PUBLICATION
Issued Monthly
Representative of every interest
Representing no special interest

Publication office at Bartow, Florida. Entered as second class matter February 16, 1920, at the post office at Tampa, Florida, under the act of March 3, 1879. Entered as second class matter June 19, 1933, at the post office at Bartow, Florida, under act of March 3, 1879.

Storage Of Oranges

By Paul L. Harding
PRINCIPAL PLANT PATHOLOGIST
DIVISION OF HANDLING,
TRANSPORTATION AND STORAGE
OF HORTICULTURAL CROPS
U. S. DEPT. OF AGRI.

During the last few years the United States Department of Agriculture has been conducting investigations on the storage of Florida Valencia oranges. Some of these studies have been on the basis of carlot tests, with the Refrigeration Research Foundation and Florida shippers cooperating in the project. The fruit has been stored at terminal warehouses at Providence, R. I., and New York for periods of 8 to 12 weeks at 32° F.

Care should be exercised in the selection of crops of fruit for storage. It should be in prime condition and should not be stored too early in the season, and on the other hand it should not be held on the tree until soft and overripe. Emphasis should be placed on grading, with soft, overripe, creased, split, and bruised fruits sorted out. Tests show some beneficial control of decay in storage by the color-added treatment. But frequently, the color-add is too severe and causes high percentages of fruit with burned stems. The color often fades and the appearance of the fruit is spotty and unattactive.

Results continue to show good control of decay by the use of Phenodor case liners and the Phenodor treated corrugated paper containers. In this connection it should be pointed out that the liner and the paper carton interferes and slows the process of cooling. In order to help compensate for this, it is suggested that a thorough job of precooling be done before shipment. This can be done in precooling rooms or in regriferator cars with fans in operation.

Good results have been obtained during the current year by packinghouse chemical treatments such as Dowicide A plus Hexamine, and Borax dip prior to Dowicide A plus Hexamine. In fact, our best control of decay was obtained by a combination using Dowicide A plus Hexamine, and packing the fruit in boxes with Phenodor liners or in Phenodor treated corrugated paper containers.

In general, the Dowicide-Hexamine treatment was similar to that developed by Drs. E. F. Hopkins and K. W. Loucks of the Lake Alfred Citrus Experiment Station through the cooperative efforts of the Florida Citrus Commission. Briefly, the treatments consisted of dipping the fruits in a water solution containing 2.0 percent Dowicide A, 1.0 percent Hexamine and 0.05 percent palmolive soap for 2 minutes at a temperature of 90° F. In some of the tests the fruits were immersed in a 5 percent borax solution 24 hours prior to the Dowicide A-Hexamine dip.

Shipments for storage at terminal markets should be timed to reach destinations early or the middle of the week. The reason for this suggestion is based on the fact that terminals are usually closed Saturdays and Sundays. In addition to precooling, the fruit should be shipped under refrigerated transit, preferably in fan cars.

In conclusion, there appears to be no short cuts in selecting and preparing fruit for successful long-time storage of oranges. The orange does not improve in storage and therefore the fruit must be prime and in good condition at the time of storage. Decay can be greatly reduced by good packinghouse methods, chemical treatments, Phenodor liners or Phenodor treated cartons, precooling, refrigerated transit and storage at 32°F.

POLK COUNTY 4-H BOY WINS UF SCHOLARSHIP

Paul Thornhill, Dundee 4-H club member has been awarded the $1000 Winn-Lovett Florida Farm Bureau scholarship to the University of Florida, according to an announcement from Farm Bureau headquarters in Winter Park, and the grocery chain in Jacksonville.

The 18-year-old son of Mr. and Mrs. George M. Thornhill is now in his second term as secretary of the State Council of Boys' 4-H Club Work.

Robinson Stresses Need Of Greater Advertising

By W. F. Robinson
CHAIRMAN
FLORIDA CITRUS COMMISSION
AT CAMP McQUARRIE,
AUGUST 31, 1951

It is a special honor to again be called upon to address this great annual Citrus Growers Institute here at Camp McQuarrie.

All of us in Lake County are proud of the 18 year old event which is held annually in our County. It has a long record of useful service. The vital Citrus matters discussed each year attract more and more attention and more and more listeners.

The Institute is unique. Each year it is the most important industry-wide meeting of citrus men held in Florida, the world's greatest citrus producing area.

It is a great personal privilege for me to be called upon by you to speak at your important meeting for the second consecutive year.

For three days now you have been listening to experts telling you of scientific and technical discoveries and problems.

I am here to discuss a far different but closely allied phase of industry—the manufacturing of profits.

Regardless of how close we feel to the soil and to our citrus trees and groves, we are even closer to the problem of making money. Like death and taxes, grove care bills are inevitable. They appear on our desks the first of each month, almost as regularly as Washington asks for more billions.

We are in the business of farming to make money. Centuries ago Aristotle, that great Greek man of learning, said "Husbandry and stock raising constitute the true and proper art of money making."

So we are practicing a profession, if you please, which has a long history of honorable performance and a long history of manufacturing profits.

We Are All Farmers

All of us are farmers, although we citrus growers are specialized farmers. We have approached the problem of making our crops profitable in a specialized manner. We do not live on what we raise. A diet of only citrus, good as it is, would be a thrifle thin. We must sell our fruit and we must sell it at a profit.

Briefly, this job of manufacturing profits through sales is the reason the Florida Citrus Commission has served your industry for 16 years.

The Commission does many other things in administering Florida's citrus laws. Its No. 1 job, however, is spending your money for advertising to promote profitable sales of what you grow.

I want to talk to you about the sort of a job your Florida Citrus Commission has been doing in helping you manufacture profits and to tell you something of its plans for spending your money to create profitable sales in the future.

The advertising task of your Commission is assuming gigantic proportions.

Its problems increase as the size of our crops grow larger.

I told the listeners at this Institute last year that never before had the Chairman of the Florida Citrus Commission been privileged to address this annual gathering under more favorable auspices.

Our industry was thriving. Profit dollars were piling high. Groves were changing hands for fabulous prices. Many new millions of dollars had been attracted to Florida for investment in our industry because of phenomenal successes scored by fresh frozen orange concentrate.

A Successful Year

Again we have completed a successful year. I am happy to report that a great majority of the growers of Florida citrus made good money in the season just past. It is true, that the profits earned by most Florida citrus farmers this season fell somewhat short of those earned when I spoke to you last year, but still they were good round profit figures.

In my talk with you last year I urged an increase in the advertising tax levied on all of us Florida citrus farmers. I told you these additional funds would be needed if we were to sell our fresh, canned and frozen citrus production at profitable figures.

Since then all of you are aware that an increase has been voted by the Florida Legislature. The increase allowed wasn't all I had hoped for but it does provide a considerable addition to the funds available to promote sales.

Increased Per Box Tax

These additional monies were provided at a fortuitous time. They came when more money was needed desperately to help our industry help itself.

The additional penny tax on oranges and on grapefruit raised the money we are using in advertising this Summer to help move the largest pack of canned and frozen goods ever processed in Florida.

The new money came at the tag end of Florida's first one hundred million box crop season.

These additional funds already have demonstrated their usefulness in helping us get rid of this tremendous pack of processed goods.

In the season to come the additional taxes certainly should demonstrate their usefulness in developing new outlets for our products, increased per capita useage of Florida citrus and in helping your Commission manufacture profits for you.

The only trouble with the advertising tax increases (and certainly I am no advocate of higher taxes for anything else) is that they are not large enough to do the job which we must do as the size of our crop continues to grow.

I dislike the word "taxes". We hear enough about taxes from Washington. I like to think of the per box levy for advertising not as a tax but as a selling expense. When it comes right down to it, that is what we citrus growers are paying for and that is what we are getting.

Advertising Needs

Before the Legislature meets in 1953 I firmly believe many in this industry will join me in urging that Florida growers invest still more money per box for advertising to foster wider consumption and to promote more sales of what we grow and produce.

I am not talking through my hat when I indicate to you that Florida is underspending to promote and sell its citrus products. Mr. Jack Forshew, the Florida representative of our fine advertising agency, pointed out not long ago that advertisers of prepared flour sold 408 million dolars worth of their product in the United States during 1949-50. He said that manufacturers of boxed soaps sold 308 million dollars worth of their products in the same year, and that there were 210 million dollars worth of cold cereals sold to the United States buying public in the same period.

To acomplish this, manufacturers of the above-named products spend from 25 to 50 million dollars a year in advertising to get the business.

How does citrus stack up against the dollar value in sales of these products and in the amounts spent for advertising? Frankly, we are doing a slipshod job. The American public during 1949-50 spent 650 million dolalrs for citrus products. To promote these sales our industry, including Texas, California and Florida, spent only 9 million dollars for advertising. We are crying for more business at better prices to the grower yet we hesitate to spend as much money as concerns put out which are doing far less dollar volume.

Is there any further evidence needed to sell the industry on the very apparent proposition that citrus men are going to have to turn loose more money if they are to continue to prosper from growing fruit?

Believe me, it is going to take more money for selling expense to do a truly adequate job of continuing to manufacture profits from citrus sales.

Industry Undergoing Revolution

Our industry is undergoing a revolution.

As in any period of spiritual or political unrest, the citrus revolution is accompanied by wave after wave of fear caused by false and mis-leading propaganda, broadcast for one selfish purpose or another.

The citrus revolution was caused by an almost complete change in our methods of processing what we have for sale. It was caused by the change-over from merely squeezing to squeezing and freezing.

Your money hired the brains which discovered the process used to manufacture fresh frozen orange concentrate.

The sales resulting from the discovery for which you paid made food distribution history. Never before has any new food product been so universally accepted and so enthusiastically purchased by the housewives of the nation.

So all of us citrus growers in Florida helped sow the seeds of the current citrus revolution. We helped to sow it with the money we provided for research.

The phenomenal sales which greeted our new product attracted the acquisitive eyes of the Big Money. For the first time Florida citrus looked like a gold mine to Wall Street capitalists.

With their healthy pocketbooks these monied gentlemen from up East invaded the citrus belt. They liked what they saw. They pulled out their rolls and started to spend. They bought fruit. They bought groves. They erected tremendous plants costing many millions of dollars. At first this money was spent so freely that most of us Florida crackers thought a new crop of suckers suddenly had been pushed down our way to make the plucking easier for us. These newcomers to the citrus business didn't hesitate to pay $2.50 to $3.00 on the tree for oranges to process through their multi-million dollar freezing plants.

They bought groves at from $1500 to $2500 an acre, the same groves that our fathers told us would be overpriced if they ever reached the level of $800 to $1000 an acre.

Certainly most of us thought the millenium had arrived. A lot of us got nigger rich.

Look Behind Scenes

We forgot to look behind the scenes. We forgot that this group of northern money men had centuries of experience with investments behind them. We forgot that these Eastern investors were interested not in our citrus groves nor our long range welfare but primiarily in the black ink profit figures their plants and their money could earn for them in Florida.

Certainly there is nothing wrong in an attempt by venture capitalists to make money. This is America and democracy. It is our way of life and we like it.

As citrus farmers we have been small time venture capitalists all of our lives. These fellows from the North merely are translating our small scale experiences into a big money operation. Their activities have caused what I consider a citrus revolution.

Like any revolution, the citrus revolution merely is a period of transition. It is a period of transition from comparatively small scale operations to major league style business.

In the old days of single strength juice it took a few hundred thousand dollars to warehouse a few hundred thousand cases of processed citrus. In the new day of frozen juice it takes millions of dollars to warehouse 30 million gallons of the stuff we showed the Eastern newcomers how to manufacture.

Venture capital was attracted in large blocks to Florida because for many years venture capital had been discouraged elsewhere throughout the nation and the world by heavy taxes and by political unrest.

A New Gold Strike

In Florida we were growing a product which tested good and which doctors said was good for the human body. We were selling what we grew for profits which some seasons ranged from 200 to 300 percent. When Big Money found out that this product could be put into a can with the water squeezed out of it, cheapening freight costs, and sold for even greater margins of profit, naturally it hurried to the scene of the new gold strike.

These large scale investors, with a couple of seasons of practical citrus operation under their belts, soon realized that the real governing factor in the success of their new venture was going to be one factor and one factor only —the price of fruit on the tree.

The gentlemen who sent the big gobs of cash to Florida for in-

(Continued on page 18)

Present Status And Trends In Citrus Varieties

By L. W. Ziegler
ASSOC. PROF. HORT., U. OF F.

PRESENTED AT CAMP McQUARRIE
AUGUST 29, 1951

The principal citrus crops of Florida belong to the orange, grapefruit, tangerine and lime groups. The lemon group, because of climatic and disease conditions, has never been dominant. The Temple orange, a natural hybrid between orange and tangerine, has received considerable attention throughout the years. More recently another hybrid group, the tangelos, has come into prominence.

Since the advent of the present commercial citrus industry in Florida, two factors have been responsible for heavy plantings. During the Florida boom, the influx of out-of-state capital resulted in widespread plantings. Since 1928-29, the fluctuations in number of trees planted have shown a close relationship to the net returns to citrus growers. A study of figures published by Savage[1] regarding net returns, and records of nursery movements from files of the State Plant Board[2] reveal that the increased plantings during the seasons 1936-37, 37-38, 45-46, 46-47, and 49-50 followed the better price seasons 1935-36, 36-37, 43-44, 44-45 and 48-49 respectively; while the lesser plantings of the seasons 1934-35, 39-40 and 48-49 were no doubt reflections of the poor marketing seasons of 1932-33, 37-38 and 47-48. These comparisons are given in Table 1.

Movement From Nurseries Compared

Movements of citrus trees from nurseries during the past 22 years consisted predominantly of the orange varieties. In only one year (1929-30) did oranges lose their dominance to grapefruit. Trees of the grapefruit group have been second in numbers except in that year and in the year 1936-37 when limes were heavily planted. The mandarin group has been responsible for the third largest number of trees planted, although the limes pushed the mandarins to fourth position during the period 1935-40.

A study of figures on acreages published by the Florida Crop and Livestock Reporting Service[3] shows that the acreages of total citrus plantings in Florida have increased without a set-back since 1919-20. Steady increases are shown for the oranges and grapefruit, with the oranges predominating. Tangerine acreages have increased since 1919-20, although their peak was reached in 1937-38. Acreages of limes were highest in 1941-42. The total acreage of citrus in 1919-20 was 84,100; that of 1948-49 was 413,500. The 1948-49 plantings were distributed as follows:

167,500 acres of early and mid-season oranges, 122,400 acres of late oranges, 54,700 acres of seeded grapefruit, 40,300 acres of seedless grapefruit, 24,000 acres of tangerines, and 4,600 acres of limes.

It would appear from these figures that oranges and grapefruit have been and are our mainstay in the citrus industry. Since, obviously, new plantings cannot continue indefinitely, it would appear that the grower must more and more turn his attention to the improvement of the acres in production. Variety selection, to more fully meet market demands as well as to answer production problems, becomes of vast importance to the citrus grower. Even beyond the selection of a variety, more attention must be given to choice of improved strains of each variety. Fortunately, the title of this paper prevents me from entering the all-important rootstock problem.

Oranges

The predominant varieties of oranges in Florida have been Hamlin, Parson Brown, Pineapple, Lue Gim Gong, Valencia and the Navels. During the season 1936-37 the Pope summer orange made its appearance.

The Valencia variety has been planted most heavily each year except during the four-year-period (1935-39) when Hamlins were heavily planted. The other late variety, the Lue Gim Gong, has always been planted in consistent, although relatively small, numbers, and for all general purposes the grower has planted them for the same reasons he might have chosen Valencia.

The Hamlin advanced, with increasing popularity, to second position in 1931-32 and to first position in 1935-36, only to lose grace, due to maturity troubles, in 1947-48. From fourth position in the latter season, it declined to fifth position in 1948-49.

The two dominant seedy varieties, Parson Brown and Pineapple, were early favorites. The numbers of these varieties used in plantings decreased, proportionately, during the 1930's and 1940's. Due, however, to the demands of the concentrating industry for solids and acid, which a seedy fruit apparently produces more than a seedless, each of these varieties showed a marked increase in numbers in 1949-50.

Table 1
Comparisons of Returns Per Box with Citrus Nursery Tree Movements

Season	Returns(1)	Nursery Tree Movements(2) (1,000 trees)
31-32	.46	604
32-33	-.06	763
33-34	.23	754
34-35	.20	528
35-36	.57	822
36-37	.64	1,056
37-38	.17	1,084
38-39	.10	701
39-40	.17	559
40-41	.26	764
41-42	.69	750
42-43	1.23	729
43-44	1.40	946
44-45	1.50	857
45-46	1.47	1,087
46-47	.19	1,197
47-48	-.07	944
48-49	.74	831
49-50	1.46	1,614

The Naval oranges have never been widely planted due to troubles with sizes and shortness of season, but with certain improved varieties they will continue to be planted in some numbers.

An interesting development has been the appearance of the Pope summer orange in 1936-37. Making a bid for popularity on its holding qualities, the numbers of trees planted has shown a definite upward trend. In fact, more of these summer oranges were planted in 1949-50 than in any previous year; more in fact than Hamlins.

In Table 2 is given the relative standing of each of these varieties by year.

Table 2
Orange Varieties
Relative Standing of Nursery Movements(2)

Year	Valencia	Pineapple	Parson Brown	Hamlin	Lue Gim Gong	Navels	Popes Summer
28-29	1	2	3	4	5	6	
29-30	1	2	4	3	5	6	
30-31	1	4	2	3	5	6	
31-32	1	3	4	2	5	6	
32-33	1	3	4	2	5	6	
33-34	1	3	4	2	5	6	
34-35	1	4	5	2	3	6	
35-36	2	3	5	1	4	6	
36-37	2	3	5	1	4	6	7
37-38	2	3	4	1	5	7	6
38-39	2	3	4	1	5	7	6
39-40	1	3	4	2	5	7	6
40-41	1	3	4	2	5	6	
41-42	1	3	4	2	5	6	
42-43	1	4	3	2	6	7	5
43-44	1	3	4	2	5	6	7
44-45	1	3	4	2	6	5	7
45-46	1	3	4	2	5	6	7
46-47	1	4	3	2	6	7	5
47-48	1	2	3	4	5	7	6
48-49	1	3	2	5	4	6	7
49-50	1	2	3	5	6	7	4

A very significant trend is shown by the study of the records of the State Plant Board. The growers are apparently planting less of widespread, miscellaneous varieties and are more prone to accept one or another of the usual varieties. Such standardization, provided of course it is directed toward the improved varieties, is certainly worth consideration.

Grapefruit

Grapefruit plantings have shown several trends during the past few years due to shifts in the methods of handling and to the advent of the pink and red varieties. Marsh Seedless was consistently the most widely planted variety until superseded by the pinks and the reds in 1946-47. Duncan, the old standard seedy variety, lost considerable of its popularity during the low prices of the early 30's. Lately, however, there has been shown a tendency towards increased plantings because of its use in canned products.

Foster, a pink, seeded variety, which originated from the old Walters variety, gained in popularity in the early 30's but gradually lost ground to the Thompson. The Foster has always had two great disadvantages; its seeded condition prevents it from being a good table fruit, while its color, even though too variable for good fresh fruit purposes, is not desired by canners.

The Thompson, due to its seedless condition, was an improvement over the Foster for the fresh fruit market. Although it has lost some ground to the red grapefruit, it is continuing to be planted in larger numbers. In 1939-40, Henninger's Ruby began to make its appearance in plantings in Florida. Having originated from Thompson Pink plantings in Texas, it combined the quality of seedlessness with a much more intense and durable red flesh color. In the season 1949-50 this variety was the most extensively planted of the grapefruits.

The Henninger Ruby, Thompson, Marsh Seedless and Duncan now comprise the bulk of the citrus grapefruit plantings being made. Other varieties, such as the Conner's Early, Foster, Walters, McCarty, Excelsior and Davis, have failed to maintain their positions.

In Table 3 is given the relative standing of each of the grapefruit varieties by year.

In conclusion, it is interesting to note the very definite increase in plantings of the Temple orange. At the same time, growers have shown a greatly increased interest in the tangelos. History alone can record the permanency of these trends. The grower is always confronted with the difficulty of looking forward to the period when his plantings come into bearing. Often the industry has changed decidedly in that short interval of time.

References

1. Savage, Zach. Eighteen Years of Citrus Costs and Returns in Florida, 1931-49. AE Series No. 50-8, Agriculture Extension Service, University of Florida.
2. Reports to State Plant Board, as summarized by Department of Agricultural Economics, University of Florida.
3. Schuler, P. E. and J. C. Townsend, Jr. Florida Citrus Fruit. Annual Summary 1950. Bureau of Agricultural Economics, U. S. Department of Agriculture, Orlando, Florida.

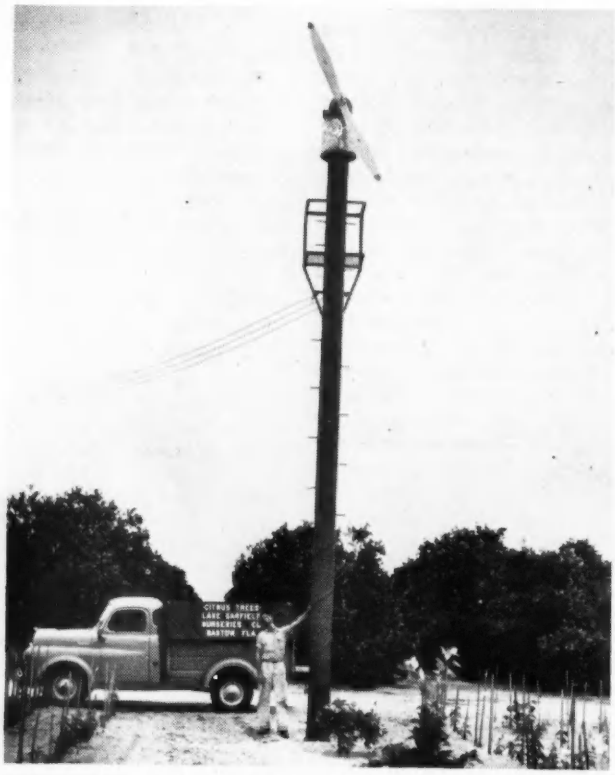
Each acre of cover crops grown this winter can mean more food and fiber next year.

Table 3
Grapefruit Varieties
Relative Standing of Nursery Movements(2)

Year	Marsh	Duncan	Conner's Early	Foster	Thompson	Walters	McCarty	Excelsior	Henninger Ruby	Davis Seedless
28-29	1	2	3	7	8	6	5	4		9
29-30	1	2	4	7	8	5	6	3		9
30-31	1	2	3	6	5	7	8	4		9
31-32	1	5	3	4	2	7	8	6		9
32-33	1	4	3	5	2	8	7	6		9
33-34	1	4	5	3	2	8	7	6		9
34-35	1	5	6	3	2	7	9	4		8
35-36	1	4	6	3	2	8	7	5		
36-37	1	4	7	3	2	8	6	5		9
37-38	1	4	6	5	2	9	8	3		7
38-39	1	3	8	5	2	9	6	4		7
39-40	1	3	9	5	2	10	6	7	4	8
40-41	1	3	8	4	2	10	6	7	5	9
41-42	1	3	8	6	2	10	9	5	4	7
42-43	1	3	8	7	2	10	5	6	4	9
43-44	1	3	9	6	2		5	7	4	8
44-45	1	4	9	5	2		3	7	6	8
45-46	1	4	8	7	2	10	5	6	3	9
46-47	3	2	8	7	1		6	5	4	9
47-48	3	4	6	9	1		5	8	2	7
48-49	3	4	7	6	1		8	5	2	9
49-50	3	4	8	5	2		9	6	1	7

Wind Machines Come To Florida

By S. Lloyd Frisbie



The history of the development of the citrus industry in Florida has been marked with a more or less continuous record of experimentation and research, with the result that everything from the quality of nursery stock to the vast expansion of individual tree production and fruit quality has been steadily enhanced over the years.

Within the past decade remarkable strides have been made in the citrus by-products field and in the preparation of citrus for the consumer market in the form of better citrus juices and in the firm establishment of citrus concentrate as an important and lasting phase of citrus marketing.

So it is not surprising that an entirely new venture, insofar as Florida is concerned, for the protection of citrus groves should make its appearance in this state. We refer to the Wind Machines which are now in common use throughout the citrus belt in California.

Two such machines have just been installed by Lake Garfield Nurseries Co., at their nursery near Lake Garfield. This installation follows a considerable period of observation and investigation by J. Frank Alexander, who with R. L. Bryan guides the destinies of this large Florida citrus nursery.

Both Alexander and Bryan have made several trips to California during the past three years and have observed the various wind machines in that state and have come to the conclusion that since they were effective in the western state there was no reason why they should not be equally effective in Florida.

Those who are familiar with temperatures and air currents state that very frequently during periods of cold weather air temperatures are subject to a condition of "inversion", which this writer has been informed by unquestionably reliable sources means that when a state of inversion exists the temperature at ground level is frequently several degrees lower than the temperature at say 10 feet above ground and that at 20 feet or 30 feet the temperature is comparably warmer than on the ground.

The function of the wind machine under such circumstance is to drive the warmer air from the above-ground levels down to the lower level with the result that the average temperature of the entire area affected is materially increased, while the air circulation induced by the wind machines will tend to keep foliage dry and more free of frost.

It is also assumed that foliage and fruit where condensation of dew on the leaves could turn into frost or thin ice coatings on cold nights, that the circulation of the air by means of wind machines will tend to keep the leaves and fruit dry and thus prevent damage caused by freezing moisture.

The manufacturers of the wind machines state frankly that their machines are designed for border line temperatures, and that where extremely low temperatures prevail it is necessary to supplement the wind movement with heat, but the manufacturers say that under such conditions their machines are enabled to preserve the proper temperatures with not to exceed 25 percent of the heat necessary where the machines are not in use.

The wind machines are mounted on towers and are arranged to revolve completely or to oscillate at any desired degree. The machines recently installed at Lake Garfield Nurseries are said to effectively stir the air for a radius of 375 feet from the tower, or for an area of approximately 11 acres.

The wind machine was first used in California in 1937, but did not come into common use in that state until ten years later, but since that time their use has been increasing with each passing year.

While the Lake Garfield people have at the present time installed this equipment only at their nursery plots, they state that in the event the machines prove as effective as they hope them to be they contemplate further installations in certain cold spots in their numerous groves.

In order that the test of the new machines may be thoroughly checked, Warren Johnson, chief of

(Continued on page 18)

Symposium Of Certification Of Disease-Free Nursery Stock

Certification of Disease Free Nursery Stock From The Nurseryman's Standpoint

Part III

By W. F. Ward

Bud-Transmitted Diseases of Citrus in Florida From The Standpoint of Control Through Certification of Disease-Free Bud Sources and Nursery Stock, at Citrus Growers Institute, Camp McQuarrie.

THE CITRUS INDUSTRY SEPTEMBER ISSUE

Part I

The effect of certain bud-transmitted diseases on the health of the citrus tree in relation to their control through bud certification.—J. F. L. Childs, Pathologist, U. S. D. A. station, Orlando, Fla.

Part II

Does the economic importance of the bud-transmitted diseases of citrus justify a certification program?—R. F. Suit, Pathologist, Citrus Experiment Station, Lake Alfred, Florida.

THE CITRUS INDUSTRY OCTOBER ISSUE

Part III

The viewpoint of a nurseryman on the merits of a certification program. — W. F. Ward, Ward Nurseries, Avon Park, Fla.

Part IV

Certification of disease-free nursery stock from the standpoint of the grower.—W. W. Lawless, Winter Haven, Fla.

Part V

Certification of disease-free nursery stock from the standpoint of the State Plant Board. —A. C. Brown, Plant Commissioner, Florida State Plant Board, Gainesville, Florida.

Before taking up this subject, permit me to state that this paper does not reflect my thoughts alone, but it is the result of a conference with one official from the Glen Saint Mary Nursery and one from the Lake Garfield Nursery with the speaker, held in Winter Haven on Tuesday, August 21st. All phases of the proposed program were discussed and we fully realize that this program will be a tremendous task which will require the close cooperation of all concerned if it is undertaken and carried through. The need of such a program must be realized by the majority of the citrus growers of the State, and the demand for it should come from them. The growers are the ones who decide what varieties they want to plant, what rootstock they want, whether they are willing to pay enough more for certified trees to justify the expense of producing them. The nurseryman strives to produce just what the growers want.

The production and sale of certified citrus nursery trees will require an extensive educational campaign on the part of the citrus growers, experiment station workers, government employees and others identified with the citrus industry, in addition to the nurserymen, if it is to be a success. This cannot be the job of the nurseryman alone. He is the one who will bear the brunt of the work and unless the public is thoroughly informed of the program and the citrus growers are willing to pay the additional price for certified trees the nurserymen cannot afford to raise them.

Good, responsible nurserymen of the State for years have been trying to produce quality trees and have given considerable attention to the selection of budwood taken from vigorous, heavy bearing trees of the better strains which appear to be free of disease. The fact that many trees appeared to be free of psorosis at 6 to 12 years of age and had other desirable characteristics have caused budders to cut budwood from them and some may have been carrying the disease all along without bark lesions and this has undoubtedly been responsible for the spread of this disease.

Let us consider for a moment what will be required on the part of the nurseryman to produce certified trees. It is not a little job which can be accomplished quickly. Under Florida conditions, from the time the nurseryman starts the work it will be about 6 years before he will have certified trees to sell in quantity. If the better points of the California and Texas methods are followed the procedure will be about as follows:

The nurseyman will select vigorous, healthy appearing trees 8 years old or more which have proven to be heavy producers of good quality fruit and which appear to have all the good characteristics of the particular variety and he will make application for registration of them. The trees selected must be surrounded entirely by healthy looking, vigorous trees of the same variety and age. He probably cannot register more than 6 trees of each variety he wants to propogate. He must show where the particular trees are located and the rootstock of each tree. A record and plats must be made showing the legal description of the 40 acre tract on which the tree is growing, the block number, row number and number of the tree in the row. After the application has been approved, the particular trees selected and all trees growing in a radius of 35 feet of the tree must be inspected regularly at each flush of growth by the technician in charge of budwood inspection and certification for a period of not less than 18 months, or for a period of not less than 2 normal spring flushes of growth. At the end of that period if the tree and all other trees immediately surrounding it do not show any symptoms of any virus disease, the tree is assigned a regular number and tagged by the State Inspector. Budwood may be taken from it for the growth of a number of progeny trees that in turn must be planted in a solid block in grove form, which shall be inspected regularly by the technical inspector for virus infection for

a period of 4 years. This block is termed the progeny block or the scion orchard. If no infection is found in any of the trees in the scion orchard during the 4 year period, budwood can then be taken from these trees for the production of certified trees for sale. Permanent records and plats must be made for each row and block of certified trees, and the number of the parent tree from which the budwood was taken for that row. All records must be available to the State Inspector and kept in such form as to give the buyer a complete record of the trees he purchased. Should any tree sold show up with disease later, it could immediately be traced back to the parent tree, if the purchaser had also made a record showing where the progeny of certain trees had been planted. When budwood is to be cut from a registered tree the nurseyman or his personal representative must be present along with an official of the technical service, making a record of the number of budeyes cut from each parent tree, the date cut, the number of the block and row in which they are to be used.

The budwood from each registered tree shall be kept in one package on which is shown the date, the parent tree number, the number of budsticks cut, estimated number of good budeyes and names of parties supervising the cutting.

The certified buds shall be grown in a separate part of the nursery from non-certified trees. A complete sworn report shall be made in quintuplicate to the Nursery Inspector, together with plats within 30 days after budding operations are finished, which will establish the exact number and location of rootstocks budded from each registered parent tree.

A systematic sales file of registered stock of over 10 trees per sale must be kept and such file shall be open for examination by the Nursery Inspection Service.

Since the number of registered trees of each variety is limited for each nurseryman it behooves the nurseryman to give these trees special care in pruning, fertilizing, watering, and spraying to produce as much budwood as possible at the time of year when he needs it most, which in Florida is from March through May.

The period of registration for a tree is 3 years providing it and the surrounding trees have not shown any symptoms of disease during the period. Should any show such symptoms the registration is immediately cancelled. At the end of the 3 year registration period application may be made for re-registration if the tree is still healthy as proven by reinspection by the technical inspector. The total costs of registration may run from $5.00 to $20.00 per tree.

Double checks on the health of trees for registration is made by the State by planting seed from such trees in a special plot or nursery where they are raised and inspected by a State technician for a specified length of time.

The raising of certified or non-certified trees is optional with each nurseryman. He should be permitted to raise both certified and non-certified trees, if he so desires, in order that he can supply the growers with what they want. In the event of a severe freeze or other act of God, which damaged his registered trees to such an extent he could not secure ample budwood for some time, he might purchase certified budwood elsewhere, if available, or he could produce non-certified trees from budwood from other sources.

The production of certified trees will require close personal supervision, a tremendous amount of record keeping, additional office help for keeping records of both production and sales, a higher grade of some laborers and a slowing down of budding during the peak season, all of which will make it much more expensive to produce certified trees than non-certified trees.

In California certified trees of planting size sell for $3.00 each, and the budoowd from a certified tree sells for 10 to 25 cents for each budeye or $1.00 or more per budstick. In Texas, Dr. Waibel reports that certified trees are selling for $2.00 each and certified budwood at about 15 cents per budeye. It must be borne in mind that nursery trees can be produced cheaper in Texas than in Florida. Some nurserymen in Texas have stated that they can produce a budded tree, large enough for planting, within 18 months after they have planted the seed for the rootstock, while in Florida it requires about 3 years.

It is believed that Florida nurserymen may have to charge about $3.00 per tree for certified trees for planting. Are you growers willing to pay that kind of a price for certified trees for grove planting? That is something to think about. If certified trees are produced in quantity they would probably cost the nurseryman $1.00 per tree more to raise than non-certified trees. Would the grower pay that difference?

If the nurseryman works for 5 or 6 years to produce certified trees and by that time the demand for trees has become so small that ordinary nursery trees can be bought very cheap, he would probably have little or no sale for his certified trees and his financial loss might be extremely great.

Some other points to be considered are as follows: In California there are about 4 varieties of citrus grown commercially, mainly on two rootstocks; namely, sour orange and sweet orange. In Texas there are a few more varieties but not many and only two rootstocks, but in Florida the growers call for 20 to 25 varieties of budded trees on four or more different rootstocks at present. More stocks may be desired in the future. It would be a physical impossibility for any one nursery to try to produce certified trees from that number of varieties. It is true that if a good, steady demand develops for certified trees that some nurseries might cooperate, one nursery producing budwood of say four main varieties, another nursery four varieties and perhaps a third nursery three or four varieties and they exchange budwood with each other. That might be the ideal setup if it could be worked out.

A large nursery would need a good many trees in its progeny blocks. Could more than 40 trees of one variety be certified by the Inspector in charge? More than 40 trees would be needed some years for budwood by one nurseryman without allowing for budwood for sale.

If a progeny block of trees were raised from a registered tree and finally passed for budwood use, and some certified trees were raised and sold, and afterwards the parent registered tree should turn out to have psorosis, where would the responsibility lie? Could the nurseryman or the inspector be held financially responsible and to what extent? Could this be overcome

or avoided by having a contract to be signed by seller as well as purchaser, stating that all precautions had been taken to produce disease free trees, but not holding the inspector, nor the Plant Board, responsible and limiting the extent of liability on the part of the nurseryman.

If a thousand or five thousand trees were still growing in the nursery from this same strain, would they be condemned by the Plant Board, or would they be sold as non-certified trees, or would an inspector be available who could make leaf examination of each tree at a flush of growth and pass those which were free and condemn those which showed psorosis symptoms?

It has been found that regardless of how good an inspector may be in diagnosing leaf symptoms and how conscientious he may be, conditions of field inspection may be such that an error sometimes occurs. It is reported that California has very few progeny trees discarded, but in Texas where the program is relatively new during the year 1950 out of a total of 275 registered progeny trees, 10 were thrown out because of infection showing up in them or in an adjacent tree, 39 lost from death or having been removed and 8 for other causes, showing a total loss of 57 trees.

The Nursery Inspection Service of California and Texas do not guarantee a tree to be free from psorosis nor issue a certificate to that effect but state that to the best knowledge and ability of those making the determinaion the tree is believed to be free of psorosis. In a letter to me, Dr. J. M. Wallace, Plant Pathologist of the Citrus Experiment Station of Riverside, California, states further, "because of the existence of different forms and strains of psoro-sis and the inconsistencies of symptom expression under field conditions it is almost inconceivable that even the very best trained man could always make the correct diagnosis. For that reason, I cannot emphasize too strongly that if such a program is put into practice in Florida it should from the very start be put in the hands of well trained, dependable men. It cannot be done haphazardly—at least there must be a well organized plan, cooperation, and whole hearted support of nurserymen, and financial support sufficient to maintain at least two well trained men. An inspector and a plant pathologist to work closely with him would be desirable."

These points have been raised to get growers and other people interested in this proposed program, to give it serious thought and to find the answers.

In summing up I wish to say that unless there is a strong demand for certified trees at a price which would return a fair profit, many nurserymen may hesitate to enter into such a long-time program. While the majority of people will admit that this would be a very desirable program for the citrus industry there will be many growers who will buy cheaper, non-certified trees rather than pay more for certified trees. For these reasons a continual educational campaign will have to be waged through the press, radio, public meetings, correspondence and personal appeal by all concerned with the welfare of the citrus industry if the program is to be successful.

What it takes
NACO's got!

for all CITRUS fruits

A fine crop . . . with the help of NACO!

Whatever you grow . . . you'll find it pays to use NACO Fertilizers, NACO Sprays and NACO Dusts. The name NACO represents a complete line of formulas from which to choose the ones that best meet your own needs. It is also your assurance of complete familiarity with the unique characteristics of Florida agriculture, for NACO knows Florida . . . Florida crops . . . Florida soils.

In making its various products, NACO uses only the best materials . . . employs the best blending methods . . . watches production carefully to make sure that each is the best that can be turned out. We ask only that you *try* our products. We know that crop *results* will show you—what it takes, NACO's got!

NACO
FERTILIZER COMPANY
JACKSONVILLE 1, FLA. FORT PIERCE, FLA.

Symposium Of Certification Of Disease-Free Nursery Stock

From The Standpoint Of The Grower

Part IV

By W. W. Lawless

From the grower and production manager's standpoint the replacement of citrus trees from year to year that have ceased to be productive or have died from psorosis or some other bud-transmitted disease is of great importance as well as considerable trouble and expense. Certification of budwood would eliminate a great deal of yearly tree replacement which is a great expense to the grower as well as a loss of fruit production and income.

The general concensus is that it costs the grower from seven to ten years' fruit production per tree replacement. A tree usually remains in the grove two or three years after disease as rendered it unproductive; frequently after its removal a couple of years lapse before a new tree is planted; it takes a young replant around five years before it is in fruit production—thus ten years have been lost. The tree that has died and must be replaced is usually a mature tree of fifteen to twenty years of age at the peak of its productive period. The grower has spent that many years growing a tree for production and then the productivity is lost to him because of a bud-transmitted disease which has killed the tree. The cost in dollars and cents is difficult to determine, but if it were an orange tree from fifty to one hundred boxes of fruit would be lost and if a grapefruit tree from seventy-five to one hundred and fifty boxes of fruit would be lost. The replacement tree would take about fifteen years before it would produce as much fruit as the dead tree was producing; consequently, more boxes of fruit would be lost. Using one dollar per box as the return for the fruit lost, then one readily sees what the loss in dollars and cents would amount to over a period of ten years or longer.

The lack of fruit production is not the only loss incurred. Production managers and growers agree that getting a reset tree to grow where old trees have been removed is difficult at the best. These trees are usually isolated in various sections of the grove, thus to water, hoe and fertilize causes the workers to travel over most of the grove to tend to a few trees. Replacement trees as a rule require more attention than trees in a newly set grove, taking more water, more hoeing, more fertilizer, and more attention. Each replacement has to be treated as a unit whereas in a young grove the entire planting can be treated as a unit. This extra attention means it costs more to raise the replacement tree than it costs to raise the original tree lost from disease. Often the replacement tree dies and has to be reset the second time and sometimes the third time entailing additional cost.

The value of a grove is reduced if there are many dead trees or skips in the planting. This is a determining factor in the value of the grove if the owner wants to sell, as oftentimes a buyer will not purchase a grove with lots of skips or young trees, or he will devalue the price asked by the owner. This has not been a serious factor in the past few years which have been "sellers'" years, but no doubt in the years to come the condition of the trees and grove will be more of a determining factor in receiving the top price for a grove.

Most growers and production managers would like for their properties to have a good appearance to the eye but if the grove contains many trees showing disease or skips the appearance of the grove to the eye is greatly reduced. This might not mean much in dollars and cents but it does mean a lot to the owner's pride of possession.

Citrus experts consider that over the state the average number of trees missing per acre is from four to five. These are not all missing because of death from budwood-transmitted diseases; probably fifty percent would be missing as a result of these diseases. Production manager say that from one to two percent of their plantings must be replaced yearly because of death from budwood-transmitted diseases. This would mean from 500,000 to 1,000,000 trees per year are lost from disease. In some groves this runs as high as ten percent but that is rather unusual. We can see then that if we lose ten years' production from each tree, from fifty to one hundred and fifty boxes of fruit per tree, and the cost of replacing these trees is more than the cost of the original tree, the cost to the owner is considerable.

If the original trees had been budded from disease-free budwood, then the production manager and the grower would not have had all the replacement problems and the owner would be much farther ahead financially. If the original trees had cost twenty-five or fifty cents more per tree the extra cost of the trees would still be far less than the cost of replacing the diseased tree and the subsequent loss of income from the lack of fruit production.

In the years ahead with the prospect of greater production of citrus in the state and the possibility of lower returns, it would mean much to the grove owner to have his grove at one hundred percent productivity. This cannot be possible if we continue to plant young trees whose scions are taken from trees that are infected with budwood-transmitted diseases. At the present time psorosis and the "Orlando tangelo disease" are the two most important diseases of this nature, but reports from research workers list many more that are bud-wood-transmitable and some much more serious than the two mentioned above. In the planting

(Continued on page 22)

Symposium On Certification Of Disease-Free Nursery Stock

Citrus Budwood Stock

Part V

By Arthur C. Brown

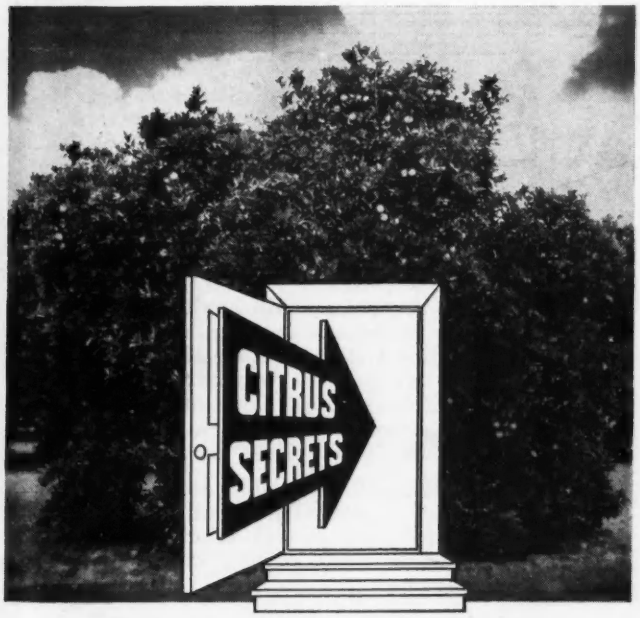
State Plant Commissioner
At Citrus Growers Institute, Camp McQuarrie

In order that you may be informed as to citrus budwood registration procedures in California and Texas, your speaker has attempted to summarize the regulations and requirements of the two states.

The California regulations apparently require that any citrus tree for which registration is requested must be free from psorosis only. The Texas regulations require freedom from psorosis in any of its types, quick decline, tristeza, and any other recognizable form of virus disease, Rio Grande gummosis, citrus canker, and leprosis.

The California regulations provide that a nurseryman may make application for inspection and select a reasonable number of trees, not to exceed fifty of all kinds. He must furnish the State official with all possible information concerning the source of the trees, their age, kind of rootstock on which they are growing, and other pertinent information. Before requesting inspection, the nurseryman should make sure as far as possible that the selected trees or any trees immediately adjacent to them do not show any visible symptoms of psorosis. The trees to be selected for registration should be at least fifteen years of age, preferably twenty to thirty years old, in order to provide for the development of bark symptoms.

The trees should be vigorous, true to varietal type, productive, and with good performance records for at least four years. Trees under fifteen years of age are not acceptable for registration except they be demonstrably derived from a registered tree or from a tree which, having been observed officially during three years subsequent to the removal of the bud-



Vertagreen also comes in an analysis for lawns, flowers, shrubs, trees and garden vegetables.

ARMOUR FERTILIZER WORKS
(Jacksonville, Florida)

How to increase Quality and Production

It's no secret that the best quality fruit brings the best price. So let new Special Formula Vertagreen for Commercial Crops help you increase quality and production. It's formulated in an analysis especially prepared for citrus grown in your section, and has been thoroughly tested and proven. See your Armour Agent. Order complete, better balanced Vertagreen for Commercial Crops today sure!

Play Safe ORDER EARLY

Feeds 3 ways ROOTS STEMS LEAVES FLOWERS FRUITS VEGETABLES

wood concerned, have remained without any evidence of infection by psorosis.

The Texas regulations limit the number of trees to be registered by any one individual to six of one variety, or not more than twenty-four trees of all varieties, and permit registration of trees which are at least eight years old from date of planting in the grove. All trees should be vigorous, true to varietal type, and productive.

The regulations of both states seek to guard against the risk of transmission of psorosis between trees by means of root grafts. In California any tree which is next adjacent to or within thirty feet of a tree known to be infected with psorosis should not be considered for certification. Texas provides for suspension or cancellation of registration in event that a virus disease is observed on a tree growing within thirty-five feet of a registered tree. The Texas regulations go so far as to require that before a tree is approved for registration its budwood scions shall have passed through the citrus nursery test plot project of the Lower Rio Grande Valley Experiment Station.

The copy of the Texas regulations at hand goes into greater detail than is the case with the copy of the California regulations available. The Texas regulations require, in the case of certification of nursery trees, that the budwood must be taken under the close supervision of the nurseryman himself or a reliable representative, and in the presence of a member of the Lower Rio Grande Valley Nurserymen's Association deputized by the State Inspector. Bud sticks must be counted and the number of buds estimated, and sticks from each tree wrapped in separate bundles. Each bundle must be labeled showing the date, variety, and tree identification, together with the number of sticks and the number of buds estimated. In Texas nurserymen are **required** to keep their stock of trees budded from registered parents in blocks separate from non-registered stock and in rows labeled with permanent tags and recorded in notes so that each nursery tree can always be identified as the progeny of an individual registered tree. In California, nurserymen are **advised** to keep their stocks of budded nursery trees in blocks

Smart Growers Demand a FULL DEISEL ENGINE

Power, Dependability and Outstanding Economy put the MASSEY-HARRIS 44 Diesel Grove Tractor at the top of the field. Full Diesel Engine . . . Electric Start . . . backed by Massey-Harris' 100-year reputation for the finest in equipment. Also available in gasoline and distillate models . . . See your local dealer for a demonstration.

Florida Farm Equipment Co., Inc.

State Distributor Box 4188, Jacksonville

MASSEY M-H HARRIS

It Pays To Be Certain

That your trees are strong and healthy in order that they may produce fine crops, and also that they will be better able to withstand the ravages of weather and pests. Florida Favorite Fertilizers are the source of health and strength to a large number of Florida's finest citrus groves.

We'd like to remind you that our own fleet of trucks deliver our fertilizers to your groves when you want it.

Florida FFF Favorite FERTILIZER, INC.

Old Tampa Road Lakeland, Florida

identified as the progeny of individual registered trees. In addition to other advantages, this procedure enables re-checking in the event of possible discovery of disease in order to fix its probable source at one parent tree and release the other parent trees from suspicion.

In Texas trees which are offered for registration and which pass the first inspection are given periodical examinations during periods of growth flush and are continued for a period of eighteen months from the time of the first inspection. Inspection must be made of two separate spring's flush periods of growth. Additional inspections beyond the 18-month period may be required before any tree may be registered. Continuous inspection through the life of the registration certificate is also required. This consists of at least three inspections per year at a time when the spring flush of growth is present. The California plan provides for the inspection of the selected trees and their environs as often as necessary and whenever conditions for inspection are favorable. The leaves on rapidly growing shoots in various parts of the accepted tree must be examined at a time and season when similar leaves on infected trees in the neighborhood do show leaf symptoms indicating the presence of psorosis. Leaves on at least fifteen shoots in a condition proper for examination and widely distributed through the tree should be examined.

In both states, registration is voluntary on the part of the nurseryman. The registration is also voluntary on the part of the inspector, depending solely upon his sincere conviction as to any suspicion or probability of infection of the tree. Registration shall be for three years, but subject to cancellation at any time if the tree becomes infected or is closely threatened with infection. The California regulations specify that registration does not imply any warranty by the nursery inspection service, and do not provide for the issuance of a certificate. Both states require that the registered trees be marked with durable tags and provide penalties for removal, alteration, or otherwise.

As you have observed, your speaker has confined his discussion to a resume of the registration regulations and requirements of the States of California and Texas, without comments or suggestions in regard to a program for Florida. The purpose of this program is to present the subject of registration from all viewpoints so that growers and nurserymen may form their own opinions as to the advantages and disadvantages of the plan. Any program of this nature which may be adopted in this State should represent the best thoughts of growers, nurserymen, and regulatory officials. It is suggested that you give this matter careful consideration after you have returned to your homes, and if you have any pertinent comments or suggestions, send them on to Mr. Lawrence or the speaker.

MORE MARKET SPACE

Need for additional market space in St. Lucie County is so acute that two packing houses now under construction have already been leased and plans are under way for extending market facilities, according to County Agent Charles D. Kime.

d/p DOLOMITE
Pays You Off...
IN QUALITY!

Want to know why more and more citrus growers, farmers and cattlemen are applying d/p Dolomite to their soil every year? Because that's the little something extra that pays off in EXTRA quality! And quality crops mean higher prices—better profits.

d/p Dolomite restores the acid-alkali balance to your soil and supplies quality producing magnesium and calcium. Because d/p Dolomite balances your soil, your fertilizing program yields far better results, too! Apply d/p Dolomite now!

Where cost is a factor in very large groves and acreage, lower-cost high calcium limestone and high calcium limestone screenings provide essential calcium at an economical price. Write us for details.

DOLOMITE Products, Inc.
Plants at Lebanon (Levy County) and Sarasota, Florida
OCALA, FLORIDA

ROBINSON STRESSES NEED OF GREATER ADVERTISING

(Continued from page 7)

vestment in citrus had this money to invest because they were hard-headed businessmen. During the past season they have started to operate their plants like hard-headed businessmen. Among other things they have sent their employees into the field to spread forecasts of over-production and cheap fruit throughout the citrus groves, packing houses and canneries of the State. They have also had their employees spread stories about the assembled power the concentrate business can and will exert over the citrus industry. They have broadcast tales of a serious overpack and over-production of all citrus products.

No Quarrel With Processors

They have attempted to buy cheap fruit. Again—this is good business and business done in the American way We should have no quarrel with businessmen doing on a big scale what most of us have done on a small scale all of our farming and business lives.

I don't believe any Florida citrus grower, most of whom have obtained their holdings down through the years under our American system of free enterprise and by acting as rugged individualists, want to do much moaning and groaning about the business methods practiced by the concentrators thus far since their entry into our industry.

We just want to be certain we recognize the methods the concentrators are using so that we may keep our guard up to protect ourselves against any attempt by them to buy our crops too cheaply.

Where will this period of transition—this change I call a citrus revolution—lead to for those of us who are small growers of fruit?

I cannot attempt to answer this question because too many imponderables and too many "ifs" are involved. I will go this far, however: It would seem to me good business for us to carefully observe the best possible cultural practices in caring for our groves and our crops. If we grow fruit which may be marketed fresh or processed, wherever prices favor growers the most, then we will have done a big job in protecting ourselves.

(To be Continued Next Month)

WIND MACHINES COME TO FLORIDA

(Continued from page 10)

the Florida Frost Warning Service, has agreed to cooperate with the local nursery folks by making a series of thermograph readings in numerous areas affected by the wind machines, as well as various levels.

Both the nursery and Johnson have stated that their findings will be made public following the coming season in order that others who may be interested will be enabled to know just what effect these machines in such common use in California may have in Florida.

CANNING IN PUTNAM

July was one of the top canning months for Putnam County, with 2,817 containers of fruits, vegetables and meat being canned, it is reported by Mrs. Elizabeth W. Starbird, home demonstration agent.

IT'S WISE TO ORDER YOUR

CALCIUM NITRATE

IN ADVANCE, TOO

X-CEL SERVICE SINCE 1909

All reports indicate that nitrogen is going to be in short supply this season. Wise growers are placing their orders for Calcium Nitrate now.

They intend to be sure of having quick acting Calcium Nitrate, the one material containing 15% Nitrate Nitrogen and 26% water soluble Calcium Oxide, when they need it.

First cargo will arrive in October. Place your order today and you'll have Calcium Nitrate on hand when you are ready to apply it.

MANUFACTURERS AND DISTRIBUTORS

JACKSON GRAIN CO.

TAMPA

SINCE 1909

• FEEDS
• SEEDS
• FERTILIZERS
• INSECTICIDES

FLORIDA

Citrus Exchange Buys Snow Crop

The high spot in Florida citrus circles during the past month was announcement that the Florida Citrus Exchange had purchased the processing plants of Snow Crop, giant organization in the processing plants and equipment, and indeed all the facilities of Snow Crop in the state with the exception of the grove acreage of some 7500 acres producing some 2,000,000 boxes of fruit annually. The deal is said to involve some $30,000,000.

This transacting makes Florida Citrus Exchange one of the largest, if not the very largest, organization of its kind in the entire industry. The Exchange already handled some 25 percent of the state's citrus crop and the addition of the Snow Crop properties, puts it in a commanding position in the processing field.

On completion of the deal Snow Crop will retain ownership of its approximately 7,500 acres of groves producing about two million boxes of fruit annually, but it will all be put under the Exchange label and marketed through the FCE in the same way as other members' fruit.

The impelling motive behind the desire of the Exchange to acquire the concentrate facilities is the need for stability within the industry, Manager Lesley said, adding that by bringing all these additional facilities under one organization the grower can find more security in his business.

Although the Exchange will operate all the concentrate facilities formerly held by Snow Crop, the latter organization will have charge of the merchandising and distribution of those products put up under the Snow Crop label. It is also understood that the Exchange plans to continue to push its own "Sealdsweet" label, and will also still put up concentrates under private labels for other distributors.

FLORIDA CITRUS PICKING SEASON OPENS EARLY

The 1951-52 Florida citrus picking season opened unusually early this year with fruit said to be in excellent condition. First picking of grapefruit to be officially announced was from the Lake Wales area, where some fruit was being picked on September 17, far in advance of the usual opening of Fall operations. Inspectors at packing houses are said to be on the alert to see that the provisions of the Florida Citrus Code are rigidly complied with.

The Citrus Industry is the Growers magazine.

Wewahitchka, Fla. — A result demonstration on water control on permanent pastures of White Dutch clover on the very wet soil of Gulf county shows that shallow surface ditches aid in controlling water and increasing the production of this valuable pasture crop, County Agent C. R. Laird reports.

THIS NEW BOOK TELLS HOW MAGNESIUM DEFICIENCIES

are robbing farmers of profit all over the country

SEND FOR YOUR FREE COPY TODAY!

You Can Get MAGNESIUM in the Most Effective Way with

Sul-Po-Mag®

Water-Soluble
Double Sulfate of Potash-Magnesia

THIS IS WHY GROWING CROPS MUST HAVE MAGNESIUM: It is required in the life process which gives plants their green color and keeps them growing ★ Promotes earlier maturity on soils low in magnesium ★ Enables crops to make better use of other plant foods ★ Carries phosphorus to the growing and fruiting parts of the plant ★ Necessary for the development of seed ★ Promotes the formation of proteins in growing crops ★ Stimulates growth of soil bacteria and fixation of nitrogen by legumes ★ Increases the plant's resistance to diseases.

ESSENTIAL FOR HEALTHY GROWTH OF CITRUS

You will get the best results from magnesium by using it in soluble form. Many Florida growers have found that the most convenient, effective and economical way to apply magnesium is in mixed fertilizers containing *Sul-Po-Mag*, a properly balanced combination of potash and magnesium, both in soluble form. Use it generously. Without adequate magnesium, citrus trees are more sensitive to cold and drought and the fruit is small with low food value and poor taste. Leading manufacturers are using *Sul-Po-Mag* in their mixed fertilizers.

POTASH International MINERALS & CHEMICALS DIVISION

INTERNATIONAL MINERALS & CHEMICAL CORPORATION
General Offices: 20 North Wacker Drive, Chicago 6

Ask for a Fertilizer containing Sul-Po-Mag®

ADVERTISEMENT — LYONS FERTILIZER COMPANY

The LYONIZER

Department

COMPILED BY THE LYONS FERTILIZER COMPANY

Reports Of Our Field Men . . .

WEST CENTRAL FLORIDA
V. E. Bourland

We have been real dry in some spots, groves in wilt, growers irrigating in some groves, while in other spots they are having plenty of rain. Groves are looking very good as a whole, but most growers are complaining about fruit being small. Scale is thriving in lots of groves in spite of spraying, but the fungi is in most of groves, and as we are getting rain now, most of the growers feel they will be benefitted within a short time. Also rust mite has been very bad for the last month. Most everyone have cut their cover crops, and cleaned their ditches so the surface water can get away.

Some of the truck farmers have their seed beds going, but not too much has been planted in the fields.

Pastures are doing very nice. Cattle are all in pink of condition, and market is very good for what is being sold.

SOUTH POLK, HIGHLANDS, HARDEE AND DE SOTO COUNTIES
C. R. Wingfield

At the time of this writing (Sept. 17th) we are having a good rain that appears to be over this entire area. This is the kind of rain that does lots of good. Prior to this rain today there was indications that irrigation equipment would have to be brought into action again.

Just after the passing on up into the Atlantic of hurricanes Easy and Fox we have had some relief from the extreme heat that we have had most of the summer. However, the past few days have been rather warm. And no doubt has had something to do with bringing the rain today.

Citrus growers have been busy with working in their cover crops by chopping and discing. Very little plowing has been done up to this time. Those with cover crops still standing should take into consideration the possibility of an early cold and the effects it would have if grasses are not well incorporated into the soil. While the cover crop is being worked in is a very good time to apply Dolomitic Limestone where needed. It is important that young trees are fed early enough to allow time for the hardening of the growth before cold. Control measures have been in almost constant use for rust mite and Florida red scale.

POLK COUNTY
J. T. Griffiths and J. K. Enzor, Jr.

During September most young groves have received their last fertilizer for the 1951 growing season. Growers are making plans for the application of their Fall fertilizer. Occasional growers irrigated in mid-September, but there were generally good rains throughout the area during the week of September 17 through 21.

Florida red scale has become a problem in many groves. In most cases where red scale has required a second spray, the original application for scale control was an oil emulsion spray. In the groves under our supervision there has been only one case where Parathion was used that red scale has reached serious proportions. This is in direct contrast with the situation which existed in 1950. It is probable that red scale will not be so severe this Fall as during last year. Parathion is being recommended at the rate of 8 to 10 pounds per tank for red scale control.

Picking of grapefruit started in Polk County as of September 17.

WEST CENTRAL FLORIDA
J. E. Mickler

At this time the activity can be seen in the fields being readied for watermelons and tomatoes. While it may seem a bit early, those that are planning for those crops are looking for a good year and want to be ready to go. Those that can are going in for more irrigation, in some instances cutting down on acreage so that what can be irrigated will be better served. With this system better grade crops will be made, and those that are able to utilize this method will be in better shape to command the top prices. Too, it will remove the greater element of chance. In the past few weeks there has been good enough weather for those making hay. The past winter cold has been fresh in the minds of the cattlemen and greater preparation for the coming winter can be seen in the surrounding pastures. A better fertilization program is in store for the Fall, and those that went through last winter want to be ready as much as possible for whatever the coming cold season might offer.

PINELLAS COUNTY
T. D. Watson

At last we have had that much needed rain. The dry spell had become somewhat serious until the last few days of heavy rain that we have enjoyed. In upper Pinellas county practically all grove owners had begun getting out irrigation pipe for that much needed water. That particular section was drier than most anyone had seen it for this time of year.

Early varieties of oranges have generally speaking, very nice sizing, but have noticed grapefruit to be somewhat small for this time of year. Nothing to be alarmed about, however.

As usual there has been quite a bit of rust mite in all areas but in most cases growers have held them in check to do only a small amount of damage.

There has been quite a bit of grass planting in Hillsborough and Pinellas this summer. Most of the ranchers and diarymen have been running heavy to pangola and Pensacola Bahia, both proven grasses for this section.

PASCO AND EAST HILLSBOROUGH COUNTIES
E. A. McCartney

In spite of a late rainy season citrus fruit is sizing up, but there is a lot of small early fruit in some sections of this territory where there is a heavy crop.

As of this date, Sept. 19, some groves have not had near enough rain and have not put out the growth expected at this time of the year. Rain has been very spotty. Fruit prices are still the main topic of conversation among the growers, but in spite of this they are making plans to go ahead with their Fall application of fertilizer.

Melon growers are preparing their land for planting and from all indications the acreage will be about as usual.

There is not much activity in this territory in Fall vegetable crops. Some eggplant is being shipped at a fair price, but our vegetable deal is mainly a Spring operation.

Uncle Bill Says:

There's a lot of smart guys around wherever you go . . . and we aren't tryin' to be funny when we say so . . . but some of these smart guys get so sure of themselves that they sometimes cover too much territory . . . like one guy we know of who will tell you what's goin' to happen in any field you may care to mention . . . but be that as it may folks who are supposed to know what's goin' on in Washington and the world at large, have been variously predictin' booms and depressions fer several years now . . . and up to this minute there hasn't been any depression worth mentioning' fer quite a spell.

So fer as we are concerned we don't have any of the qualifications which go to make an "expert," but we've lived fer quite a spell and we've seen a lot of things happen in the field of citrus and agriculture in Florida . . . like bank failures, hurricanes, freezes, drougths, pest infestations and quarrels among different groups in the industry, but in spite of all these things the industry in Florida continues to grow and thrive and prosper. In fact, as we've said before we don't know of any legitimate business where an investment of the same amount of money as that invested in a Florida citrus grove will, on an average, pay the same returns on the money invested.

These returns don't come just as a result of a guy plantin' some trees and then sittin' back and lettin' Nature do the rest . . . they come as the result of plantin' the right sort of trees in the right soil and in the proper location, and then workin' like the dickens in maintainin' sound growth, exercising every known successful production practice, such as proper fertilization, proper cultivation, proper insect control programs, and all other things which go into the makin' of big crops of fine fruit, and then in exercisin' control over the markets so that each grower may get the net returns to which his efforts entitle him . . . the fact that more often than not the Florida growers are able to realize a good, substantial profit from their operations, furnishes sound proof of their ability as growers and as business men.

Of course, every season can't be a hundred percent perfect, but by and large, the average is one that is the envy of many a business man whose money and efforts are confined to ordinary commercial enterprises.

SYMPOSIUM OF CERTIFICATION OF DISEASE-FREE NURSERY STOCK

(Continued from page 14)

of new groves or in the replacement of dead trees in older groves the use of certified trees would give the owner a great advantage because he would not be faced with the loss of producing trees in either the new planting or those used for replacements. This would mean that his production would stay at a high peak and he would not suffer loss of income from the lack of productive trees. In the certification of trees for budwood no doubt trees of vigorous growth habits and of good production record would be selected as well as trees true to variety. This would increase the vigor and productivity of trees budded from certified trees which in turn would mean higher production and more income for the owner. In the years to come trees that produce from one-half to a box of fruit more per tree will probably mean the difference btween red ink and a profit to the owner. Certified trees free from disease would also reduce the cost of production.

Considering all factors involved, it is my feeling that the certification of budwood would be of great advantage to the citrus industry and especially to the owner of a citrus grove. I believe that most growers and production managers would be willing to pay the increased cost of certified trees. I realize that obtaining budwood from certified trees would necessitate more work on the part of the nurserymen and that they would have to charge more for certified trees than for non-certified trees, but the final results no doubt would substantiate the extra trouble and cost. In closing I would like to urge that nurserymen and growers give serious thought to a program of certifying young citrus trees as being free from diseases transmitted by budwood.

INDIAN RIVER CITRUS SEMINAR TO BE HELD AT COCOA OCT. 25-26

Production and marketing will receive major emphasis at the Fifth Indian River Citrus Seminar to be held in Cocoa on October 25 and 26, according to James T. Oxford, Brevard County Agent.

Plans for the meeting, the most important of the year for growers in this section, are now being completed by Mr. Oxford, Charles D. Kime, St. Lucis County Agent, Marcel Boudet, Indian River County Agent, and Extension Citriculturist Fred P. Lawrence. The seminar is an annual event sponsored by the Indian River Citrus League and the University of Florida Agricultural Extension Service. Growers from seven counties in the Indian River section will attend.

Classified Ads

$600.00 BUILDS COZY 4 ROOMS and bath. Concrete block. Stuccoed. Complete instructions $1.00. Saginaw Realty Agency, Box 992, Saginaw, Mich.

DRAFTING, MECHANICAL, ARCHITECTURAL, STRUCTURAL; — Small or Large Jobs; House Plans to Industrial Plants. Lakeland Engineering Associates, Inc., 211 East Lemon Street, Lakeland, Florida.

MORE AND MORE CITRUS GROWERS ARE USING DOUBLE X SPRAY.

WHY?
QUALITY FRUIT COMMANDS TOP PRICES.

DOUBLE X SPRAY PROGRAM IS ECONOMICAL
Which means additional Profit.
DOUBLE X is an ALL PURPOSE SPRAY.

MATUROX IS A HARMON AND VITAMIN SPRAY AIDING IN RAISING SOLIDS AND INCREASING SIZE.

NATIONAL PRODUCTS CO.
2016-2022 W. Washington St.
ORLANDO, FLA.
Phone 2-3458 Nite phone 2-3776

Lakeland Engineering Associates, Inc.
Registered Engineers
Industrial Plant Designers and Structural Engineers
211 East Lemon Street Lakeland, Florida

POUNDS MOTOR COMPANY
CASE TRACTORS AND IMPLEMENTS
HARDIE SPRAYERS
Propane-Butane Burners for
SPRAYERS, TRACTORS AND IRRIGATION UNITS
WINTER GARDEN, FLORIDA
Local Phone 62 Long Distance Phone 7000

CITRUS INDUSTRY BUYER'S GUIDE

Grouped together on this page are the advertisements of several Florida business concerns who are reputable suppliers of commodities of interest and value to all factors of the great Citrus Industry of this State. Check these advertisements closely for supplies of which you may be in need . . .

"The Original"
May Bros. Well Drilling Co.
"Born In The Business"

FARM AND GROVE IRRIGATION

Portable Equipment Enables Us To Give Prompt Service Within 200 Miles of Tampa

4200 E. Broadway
Tampa, Florida
Telephones 4-3560 and 8-3580
WELLS FOR EVERY PURPOSE
Our Work Is Guaranteed

CITRUS PICKING LADDERS

Constructed of red heart cypress with Tennessee White Oak rungs. We aim to carry a complete line of well seasoned picking ladders in various lengths at all times.

TERRY LADDER WORKS
BARTOW, FLORIDA
Phone 9-5581

Lake Garfield Nurseries

P. O. Box 154

BARTOW FLORIDA

Citrus Trees Exclusively

STRUCTURAL STEEL

To Serve The Needs Of The Entire Citrus Industry

- Complete Fabrication and Erection Service

Southeastern Sales & Service
Structural Steel Division
Marion E. "Pat" Howell, Mgr.
W. C. "Bill" Spivey, Sales Mgr.
Phone 690 P. O. Box 751
Bartow, Florida

Complete
CITRUS GROVE MANAGEMENT

The Very Best of Service to Grove Owners of either Large or Small Groves

Servicing The Polk County Area

CLAYTON LOGAN, INC.
Lakeland, Florida
104½ S. Florida Ave. — Call 26-191

For
MAXIMUM CROPS
of
FINEST QUALITY

LYONIZE YOUR CROPS

LYONS FERTILIZER CO.
Tampa, Florida

IRRIGATION EQUIPMENT

Free Engineered Layouts on Steel or Aluminum . . . . See Your Cambar Man Now.

AMES A-B-C LOCK JOINT PORTABLE PIPE
FLEX-O-SEAL LOCK JOINT PORTABLE PIPE
In Plain or Perforated
FAIRBANKS-MORSE and POMONA DEEP WELL TURBINE PUMPS
FAIRBANKS-MORSE CENTRIFUGAL PUMPS

The Cameron & Barkley Co.
Our Eighty-Sixth Year of Service
MILL SUPPLIES and MACHINERY
Tampa, Fla. Orlando, Fla.

Hundreds of
Successful Florida Growers
Depend On Us For
Reliable Nursery Stock

GLEN ST. MARY NURSERIES COMPANY
Winter Haven, Florida

IRRIGATION EQUIPMENT

Pumps - Engines - Aluminum Pipe
Sprinkler Systems for Groves, Vegetables and Improved Pastures
Free Estimates

Shag Taylor Pump Co.
Wauchula, Florida
Phone 5471
Branch at Yalaha, Fla., Phone Leesburg 1119 Red

FOR GREATER GROVE PROFIT

Through Efficient
Grove Management
Call

FULTON GROVE SERVICE
Phone 9-1690 BARTOW, FLA.

We Are
PRINTING SPECIALISTS

On all forms required for keeping accurate grove operations records . . . And all other forms of booklet or special form printing, including Printed or Engraved Stationery.

Contact Us For Details And Prices

Bartow Printing Company
Phone 269
Bartow, Florida

LIBRARY FLA. AGRICULTURE EX. STA.
GAINSVILLE, FLA. 1-51

You, Too, Are Invited

To join that large and successful group of Florida Growers who have found that the slogan shown above is something more than a catchy advertising phrase . . . . the fact that you can produce Maximum Crops of Finest Quality with Lyons Fertilizers, is a simple statement based upon many years of practical demonstration . . . . Many of Florida's most successful citrus growers have profited year after year through the use of Lyons Fertilizers.

You, too, can profit by
using Lyons Fertilizers

Lyons Fertilizer Company

Tampa, Florida

AGENTS CARRYING STOCK:

Arnold Feed & Seed Store,
Winter Garden
John W. Barber, Jr., Webster
Berryhill Hardware Company
22 Street Causeway Blvd., Tampa, Fla.
Walker's Grocery Co., Wauchula, Fla.
Farmers Supply Co., Immokalee
Norman Blocker, Blanton
Butler Feed Co.,
409 13th St., Leesburg
H. C. Beckett Grove Service,
Winter Garden
Dowling Feed Store,
715 9th St., Bradenton
Fox Feed Store,
413 W. Waters Ave., Tampa
W. B. Goding & Son, Apopka
Farmers Supply Co., Immokalee
Harry Goldberg, Pompano
Raymond Graham, Zolfo Springs
Hillsboro Feed & Milling Co.,
3021 E. Broadway, Tampa
Harold H. Kastner & Co.,
1300 French Ave., Sanford
A. G. Macaulay,
1039 Central Ave., St. Petersburg
McCord Feed Store, Winter Garden
Judson Nichols, Pierson
Robert A. Nordman,
232½ N. Clara Ave., Deland
John W. Parker, Arcadia
Ruskin Farm Supplies, Ruskin
Sarasota Feed Co.,
9th and Lemon, Sarasota
A. H. Schrader, San Antonio
Slaughter & Taylor, Inc.,
8th Ave., Palmetto
South Bay Growers, Inc., South Bay
J. C. Smith & Son, Lakeland
Smith Feed Store
110 N. Rodgewood, Sebring
Sparks & Jordan,
5511 Nebraska Ave., Tampa
Taylor's Feed Store, Zephyrhills
Tampa Feed Co., 5904 Florida Ave.
Tarpon Feed & Supply Co.,
Tarpon Springs
Thornton Feed Co.,
8718 Nebraska Ave., Tampa
Tuckett, Inc., Minneola
Unity Farms, Inc., Pahokee
G. E. Wetherington,
Route No. 2, Box 479, Plant City
Wells Citrus Service & Supply Co.,
Tavares

LYONIZE
YOUR CROPS

FIELD REPRESENTATIVES:

V. E. Bourland, Winter Garden
E. A. McCartney, Temple Terrace, Tampa
James M. Sample, Lake Hamilton
Eaves Allison, Sarasota
R. L. Padgett, Avon Park
Norman Tuckett, Minneola
Tillman D. Watson, Tampa

LYONIZE
YOUR CROPS